

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled) A system comprising:
a plurality of data storage drives; and
a controller coupled to each of the data storage drives;
wherein the controller is configured to power on a first subset of the data storage drives and to power off a second subset of the data storage drives, and wherein each of the first and second subsets contains at least one of the data storage drives.
2. (Canceled)
3. (As Amended) A system comprising:
a plurality of data storage drives;
a controller coupled to each of the data storage drives;
wherein the controller is configured to power on a first subset of the data storage drives and to power off a second subset of the data storage drives, wherein each of the first and second subsets contains at least one of the data storage drives,
and ~~The system of claim 1~~ wherein the first subset comprises at least one data storage drive in a first RAID set and the second subset comprises at least one data storage drive in the first RAID set.
- 4-6. (Canceled)
7. (Currently Amended) A system comprising:
a plurality of data storage drives;
a controller coupled to each of the data storage drives;
wherein the controller is configured to power on a first subset of the data storage drives and to power off a second subset of the data storage drives, wherein each of the first and second subsets contains at least one of the data storage drives,

wherein the data storage drives comprise hard disk drives, and ~~The system of claim 5,~~ wherein the system comprises multiple groups shelves, wherein each group ~~[[shelf]]~~ comprises multiple subsets of data storage drives.

8. (Currently Amended) The system of claim 7, wherein the system comprises one or more RAID sets of data storage drives and wherein each of the one or more RAID sets of data storage drives comprises data storage drives from at least two of the groups shelves.

9. (Currently Amended) The system of claim 7, wherein the controller comprises a rack controller connected to a plurality of shelf controllers, wherein each shelf controller is configured to control a set of data storage drives ~~on a corresponding shelf~~.

10. (Original) The system of claim 7, wherein the data storage drives are contained in a single physical enclosure.

11-13. (Canceled)

14. (Currently Amended) A system comprising:
a plurality of data storage drives;
a controller coupled to each of the data storage drives, wherein the controller is configured to power on a first subset of the data storage drives and to power off a second subset of the data storage drives, wherein each of the first and second subsets contains at least one of the data storage drives; and
one or more parity drives, each of which is associated with a corresponding RAID set of the plurality of data storage drives. ~~The system of claim 12,~~ wherein the one or more parity drives are always powered on.

15. (Canceled)

16. (Currently Amended) A system comprising:
a plurality of data storage drives;
a controller coupled to each of the data storage drives, wherein the controller

is configured to power on a first subset of the data storage drives and to power off a second subset of the data storage drives, wherein each of the first and second subsets contains at least one of the data storage drives; and

one or more metadata drives, each of which is associated with a corresponding group of the plurality of data storage drives ~~The system of claim 15~~, wherein the system is configured to store metadata information on the metadata drive, wherein the metadata comprises a mapping of logical addresses for the system to physical addresses for the corresponding group of [[.]]data storage drives.

17. (Currently Amended) A system comprising:

a plurality of data storage drives;

a controller coupled to each of the data storage drives, wherein the controller is configured to power on a first subset of the data storage drives and to power off a second subset of the data storage drives, wherein each of the first and second subsets contains at least one of the data storage drives ~~The system of claim 15~~, wherein the system is configured to store metadata information on the metadata drive, wherein the metadata comprises health information for the corresponding group of [[.]]data storage drives.

18. (Currently Amended) A system comprising:

a plurality of data storage drives;

a controller coupled to each of the data storage drives, wherein the controller is configured to power on a first subset of the data storage drives and to power off a second subset of the data storage drives, wherein each of the first and second subsets contains at least one of the data storage drives ~~The system of claim 15~~, wherein the system is configured to store metadata information on the metadata drive, wherein the metadata comprises data which duplicates a portion of each of the corresponding group of [[.]]data storage drives.

19. (Currently Amended) A system comprising:

a plurality of data storage drives;

a controller coupled to each of the data storage drives, wherein the controller is configured to power on a first subset of the data storage drives and to power off a second subset of the data storage drives, wherein each of the first and second subsets

contains at least one of the data storage drives ~~The system of claim 15~~, wherein the one or more metadata drives are always powered on.

20-24. (Canceled)

25. (Currently Amended) A method comprising:
providing a data storage system having a plurality of data storage drives;
performing data accesses to the data storage system, wherein the data accesses
involve accesses to a first subset of the data storage drives, wherein the first
subset of the data storage drives is powered on; and
powering down a second subset of the data storage drives, wherein the data accesses
do not involve accesses to the second subset of the data storage drives ~~The method of~~
~~claim 23~~, wherein the first subset comprises at least one data storage drive in a first RAID set and the second subset comprises at least one data storage drive in the first RAID set.

26. (Canceled)

27. (Currently Amended) A method comprising:
providing a data storage system having a plurality of data storage drives;
performing data accesses to the data storage system, wherein the data accesses
involve accesses to a first subset of the data storage drives, wherein the first
subset of the data storage drives is powered on; and
powering down a second subset of the data storage drives, wherein the data accesses
do not involve accesses to the second subset of the data storage drives ~~The method of~~
~~claim 23~~, wherein performing data accesses to the data storage system comprises
accessing a block of storage that spans a first data storage drive and a second data
storage drive, wherein as the first data storage drive is accessed, the first data storage
drive is powered on and the second data storage drive is powered off, and as the
second data storage drive is accessed, the second data storage drive is powered on and
the first data storage drive is powered off.

28. (Original) The method of claim 27, further comprising, if the data accesses comprise writes, caching data for the second data storage drive as the second data storage drive is transitioned from a powered off state to a powered on state.

29. (Original) The method of claim 27, further comprising, if the data accesses comprise reads, retrieving data corresponding to the second data storage drive from a metadata volume as the second data storage drive is transitioned from a powered off state to a powered on state.

30-32. (Canceled)

33. (Currently Amended) A method comprising:
providing a data storage system having a plurality of data storage drives;
performing data accesses to the data storage system, wherein the data accesses
involve accesses to a first subset of the data storage drives, wherein the first
subset of the data storage drives is powered on; and
powering down a second subset of the data storage drives, wherein the data accesses
do not involve accesses to the second subset of the data storage drives, wherein
performing data accesses to the data storage system comprises accessing one or more
data storage drives and corresponding metadata drives, and ~~The method of claim 32,~~
wherein accessing the metadata drives comprises storing metadata information on the
metadata drive, wherein the metadata comprises health information for the
corresponding group of [[.]]data storage drives.

34. (Currently Amended) A method comprising:
providing a data storage system having a plurality of data storage drives;
performing data accesses to the data storage system, wherein the data accesses
involve accesses to a first subset of the data storage drives, wherein the first
subset of the data storage drives is powered on; and
powering down a second subset of the data storage drives, wherein the data accesses
do not involve accesses to the second subset of the data storage drives, wherein
performing data accesses to the data storage system comprises accessing one or more
data storage drives and corresponding metadata drives, and ~~The method of claim 32,~~
wherein accessing the metadata drives comprises storing metadata information on the
metadata drive, wherein the metadata comprises data which duplicates a portion of
each of the corresponding group of [[.]]data storage drives.

35-39. (Canceled)